

REMARKS/ARGUMENTS

Claims 1-12, 15-21, 27-28, and 37-40 are pending.

Claims 1, 2, 7, and 27-28 have been amended.

Claims 13-14, 22-26, and 29-36 have been cancelled.

Claims 37-40 have been added.

Support for the amendments is found in the claims and specification, as originally filed. Specifically, support for the limitation “2-4 %” of claims 1, 7, and 27-28, can be found in Examples 1-4, wherein the amount of Na₂O is 2, 3, and 4 %. *See Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570 (Fed. Cir. 1985) (the parent application disclosed examples with a protein content of 25% and 27%, and the application at issue claimed a protein content greater than 25%, which is found to have support in the parent applications). The purpose of the written description requirement is to ensure that a patent application conveys to a person of skill in the art that the applicants had possession of the claimed invention. *See, e.g., LizardTech, Inc. v. Earth Resource Mapping, Inc.*, 424 F3d 1336, 1345, 76 USPQ2d 1724, 1731 (Fed. Cir. 2005).

Support for claims 37-40 can be found on page 8, Table 1.

No new matter is believed to have been added.

Applicants wish to thank the Examiner for the discussion on August 27, 2008. The obviousness rejection of the claims was discussed in view of the proposed amendments, i.e., a content of Na₂O “at most 4 %” and “a degree of yellowing at most 2.” The Examiner expressed willingness to reconsider the rejection. The Examiner also pointed out that the proposed amendments would likely raise a new issue and require a new search. The Examiner suggested filing an RCE. The Examiner also pointed out that the claims directed to various displays (claims 13-14, 22-26, 29-30, and 35-36) are duplicates of the claims filed in

the divisional application. The Examiner suggested canceling the displays claims in the present (parent) application.

Claims 1-12, 15-21, 27-28, 31, and 33-34 are rejected under 35 U.S.C. 103(a) over Khiati et al., WO 98/40320 (US 6,905,991 is the US equivalent and is further used as a reference). The rejection is traversed because Khiati et al. do not describe or suggest selecting a glass composition having a content of Na₂O of 2-4 % and a thermal expansion coefficient between 80 and 90 × 10⁻⁷/°C from a broad range of the Khiati et al. compositions. Khiati et al. also do not describe or suggest a glass composition having a density at 25°C of around 2.7 (claim 21) and providing a degree of yellowing at most 2 (claims 37-40).

The claims are directed to a glass composition for an emissive display, comprising the constituents below, in the following proportions by weight :

| | |
|--------------------------------|-------------|
| SiO ₂ | 67.5 - 75 % |
| Al ₂ O ₃ | 0.5 - 1 % |
| ZrO ₂ | 2 - 7 % |
| Na ₂ O | 2 - 4 % |
| K ₂ O | 4 - 11 % |
| MgO | 0 - 5 % |
| CaO | 5 - 10 % |
| SrO | 5 - 12 % |
| BaO | 0 - 3 % |
| B ₂ O ₃ | 0 - 3 % |
| Li ₂ O | 0 - 2 % |

with the relationships :



MgO + CaO + SrO + BaO is greater than 12 % and less than or equal to 18%,
and said composition having a thermal expansion coefficient between 80 and $90 \times 10^{-7}/^{\circ}\text{C}$.

Khiati et al. generally describe a glass composition comprising 5-10 % of Na_2O (col. 5, lines 36-44, table) and 2-8 % of Na_2O (col. 5, lines 50-56, table) and having a thermal expansion coefficient of $60-88 \times 10^{-7}/^{\circ}\text{C}$ (col. 4, lines 39-42).

However, Khiati et al. do not describe selecting a specific composition comprising 2-4 % of Na_2O and having a thermal expansion coefficient is $80-90 \times 10^{-7}/^{\circ}\text{C}$, wherein the content of the other glass components is within the claimed range. In fact, all glass compositions of the Example of Khiati et al. have a significantly higher content of Na_2O .

Specifically, glass compositions of the table of col. 10, lines 5-20, referred to by the Examiner, have 5% of Na_2O and the thermal expansion coefficient is 77.8 and $78 \times 10^{-7}/^{\circ}\text{C}$ (columns one and two of the table of col. 10, lines 5-20). Although the thermal expansion coefficient of a third composition (third column of the table) is $80 \times 10^{-7}/^{\circ}\text{C}$, the content of Na_2O is 5 % and SiO_2 is 65.6 % (outside of the claimed range).

Further, all Examples of the tables of col. 8, lines 55-65; col. 9, lines 46-54; and col. 11 (Annex) have a high content of Na_2O . Examples 1-5 and 7-8 have the thermal expansion coefficient of 80.1 , 81 , 82 , and $83 \times 10^{-7}/^{\circ}\text{C}$, but still have a high content of Na_2O and the amount of other components is outside of the claimed range (e.g., SiO_2 in Examples 2-4 and 7-8 is lower; Al_2O_3 in Examples 1-2 is 0; ZrO_2 in Examples 2 is 7.5; CaO in Examples 1-5 and 7 is 11 or 10.5 %; SrO in Examples 1-5 and 7-8 is 3, 3.5, and 4 %; etc.).

Thus, Khiati et al.'s Examples do not have a single combination that satisfies the claimed characteristics because Khiati et al. do not have a goal of solving the problem of the yellowing resistance of glass for an emissive display but only solves the problem of

manufacturing a glass substrate having a virtually zero deformation when treated at a temperature of above 600 °C (col. 3, lines 52-59).

The technical problem the present invention solves is to improve the yellowing resistance of a glass substrate for emissive displays (page 1). As described on page 1 of the present specification, the substrates made of a silica-soda-lime glass, which bear heat-treated silver-based layers, have a tendency to develop a yellow coloration that contributes to the degradation of the quality of the image. The claimed glass shows a reduced yellow coloration which is obtained by using a combination of a high content of SiO₂ (higher than 67%), a low Al₂O₃ content (0.5-1%), a low ZrO₂ content (2-7%), and a low content of Na₂O (2-4%). The claimed composition has a thermal expansion coefficient of the same order of magnitude as a conventional silica-soda-lime glass ($80-90 \times 10^{-7}/^{\circ}\text{C}$) and a low degree of yellowing (see Table 1 on page 8).

Examples of the present specification demonstrate that when the content of Na₂O is outside of the claimed range (Examples 5 and 6, page 8), the degree of yellowing of the glass is much higher. The glass of Example 5 corresponds to a conventional silica-soda-lime glass (Na₂O is 14%) and has the yellowing degree of 8.2. The glass of Example 6 is a commercial glass (Na₂O is 4.1%) and has the yellowing degree of 6.4. The yellowing degree of the glass of Examples 1-4 (Na₂O is 2, 3, and 4%) is at most 2 (see Table 1 on page 8 of the present specification). Thus, the claimed composition provides the unexpectedly improved yellowing resistance.

Also, Khiati et al. do not describe or suggest a glass composition having a density at 25°C of around 2.7 (claim 21). The Khiati et al. composition has a density of 2.59 (col. 9, line 17). The Examples in the specification show that when a density is 2.52 or 2.76 (Examples 5 and 6), the properties of the glass composition are outside of the that claimed (see Table 1 on page 8 of the present specification). Also, degree of yellowing after treating the glass

according to the invention is markedly lower than that of the soda-lime-silica glass of Examples 5 and 6 (page 7).

Lastly, Khiati et al. do not describe or suggest a glass composition providing the degree of yellowing of at most 2 (claims 37-40).

Thus, Khiati et al. do not make the claimed glass composition obvious.

Applicants request that the rejection be withdrawn.

A Notice of Allowance for all pending claims is requested.

Respectfully submitted,

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